2007 Fall Meeting
Search Results

Cite abstracts as **Author(s) (2007), Title, *Eos Trans. AGU*, *88*(52), Fall Meet. Suppl., Abstract xxxxx-xx**

Your query was:
janssen and coleman

HR: 1340h
AN: **G33B-1235**
TI: Strain Rate Distribution on an Active Ice Shelf Rift Derived by GPS
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AB: The majority of mass lost from the Antarctic ice sheet takes place at the fringing ice shelves via iceberg calving. Iceberg calving is controlled by the initiation and propagation of large scale rifts (fractures that penetrate through the entire ice shelf thickness), which precede large tabular iceberg detachment and can lead to ice shelf break- up. Our study area is the Amery Ice Shelf, East Antarctica, where we have observed over the past 5 Antarctic summer seasons an active rift system using a network of GPS and seismic stations. Here we report on the analysis of some of the GPS measurements. Strain rates are determined for a network of 11 sites observed over three weeks during the 2004/05 Antarctic summer period. In order to investigate possible changes in rift fracture mechanics, the results are combined with, and compared to, strain rates obtained in the 2002/03 season, when a sparser 6-station network was deployed for 46 days. Analysis of the network using a cumulative sum approach, obtained by differencing a pair of residual baseline time series situated approximately normal and parallel to the rift, is found to be an effective method to detect small baseline length changes.
DE: 0728 Ice shelves
DE: 1211 Non-tectonic deformation
DE: 1240 Satellite geodesy: results (6929, 7215, 7230, 7240)
SC: Geodesy [G]
MN: 2007 Fall Meeting

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